94. The nucleic acid of claim 93, wherein the protein comprises a sequence at least 80 % identical to the sequence of SEQ ID NO:3 fused to an amino acid sequence at least 80% identical to the sequence inclusive of Gln 991 to Val 1256 of SEQ ID NO:2.

95. The nucleic acid of claim 93, wherein the protein comprises a sequence at least 80% identical to the sequence of SEQ ID NO:8 fused to a sequence at least 80% identical to the sequence of SEQ ID NO:4.

96. The nucleic acid of claim 93, wherein the protein comprises a sequence at least 80% identical to the sequence of SEQ ID NO:8 fused to the amino acid sequence inclusive of Gln 991 to Val 1256 of SEQ ID NO:2.

97. The nucleic acid of claim 93, wherein protein comprises sequences that are linked via an amino acid linker.

98. A viral vector comprising a polynucleotide sequence of claim 93.

99. A pharmaceutical composition comprising the nucleic acid molecule of claim 93, and a pharmaceutically acceptable carrier or diluent.

100. The pharmaceutical composition of claim 99, wherein the pharmaceutical composition is a vaccine.

101. The pharmaceutical composition of claim 99, further comprising an immunostimulatory substance.

102. The pharmaceutical composition of claim 99, wherein the nucleic acid molecule is a DNA molecule.

103. An isolated nucleic acid encoding a protein comprising a HER-2/neu extracellular domain fused to a fragment of the HER-2/neu phosphorylation domain, wherein the protein has a sequence at least 80% identical to the sequence of SEQ ID NO:7, or wherein the protein comprises a sequence at least 80% identical to the sequence of SEQ ID NO:3 fused to a sequence at least 80% identical to the sequence of SEQ ID NO:5, and wherein the protein is capable of producing an immune response in a warm-blooded animal.

104. The nucleic acid of claim 103, wherein the protein comprises a sequence at least 80% identical to the sequence of SEQ ID NO:3 fused to a sequence at least 80% identical to the amino acid sequence inclusive of Gln 991 to Arg 1049 of SEQ ID NO:2.

105. The nucleic acid of claim 103, wherein the protein comprises a sequence at least 80% identical to the sequence of SEQ ID NO:8 fused to a sequence at least 80% identical to the sequence of SEQ ID NO:5.

106. The nucleic acid of claim 103, wherein the protein comprises a sequence at least 80% identical to the sequence of SEQ ID NO:8 fused to a sequence at least 80% identical to the amino acid sequence inclusive of Gln 991 to Arg 1049 of SEQ ID NO:2.

107. The nucleic acid of claim 103, wherein protein comprises sequences that are linked via an amino acid linker.

108. A viral vector comprising a polynucleotide sequence of claim 103.

109. A pharmaceutical composition comprising the nucleic acid molecule of claim 103, and a pharmaceutically acceptable carrier or diluent.

110. The pharmaceutical composition of claim 109, wherein the pharmaceutical composition is a vaccine.

111. The pharmaceutical composition of claim 109, further comprising an immunostimulatory substance.

112. The pharmaceutical composition of claim 109, wherein the nucleic acid molecule is a DNA molecule.

113. A method of making a fusion protein, the method comprising the steps of:

(a) introducing into a cell an expression vector comprising a polynucleotide according to claims 93 or 103;

(b) culturing the transfected cell; and

(c) purifying the expressed protein.

114. The method of claim 113, wherein the cell is a CHO cell.

115. The method of claim 113, wherein the cell is cultured in suspension, under serum-free conditions.

116. The method of claim 113, wherein the expressed protein is purified by a two-step procedure, the procedure comprising:

(a) anion exchange chromatography on Q sepharose High Performance Columns; and

(b) hydrophobic chromatography on Phenyl Sepharose 6 Fast Flow low substitution.

REMARKS

In response to the Restriction Requirement mailed March 20, 2001, Applicants elect to prosecute Group II, claims 8-9, 15-18, 33-34, 40-43, and 89-92, directed to